EXHIBIT 15

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

IN RE HARD DISK DRIVE SUSPENSION ASSEMBLIES ANTITRUST LITIGATION This Document Relates To: Reseller Plaintiffs Actions	Case No. 19-md-02918-MMC Chief Judge Maxine Chesney Magistrate Judge Kandis Westmore

EXPERT REPORT OF MICHAEL A. WILLIAMS, PH.D.

October 11, 2022

140. Common evidence shows that Defendants engaged in a number of actions contrary to their independent self-interests but for the existence of the alleged conspiracy.

141. The economic evidence is consistent with the existence of the alleged conspiracy during the damages period and inconsistent with each Defendant having acted in its unilateral economic self-interest absent the alleged conspiracy.

IV. CLASSWIDE IMPACT

142. In this Section, I analyze whether well-accepted econometric analyses and common evidence can be used to determine whether the anticompetitive effects of Defendants' alleged conspiracy caused widespread effects to members of the proposed Class, causing harm to all or virtually all of them. For the purpose of estimating overcharges, if any, I have assumed the allegations in the Complaint are true.

143. My analysis proceeds in three steps. First, I determine whether common evidence and analyses can be used to determine whether the alleged conspiracy raised HDD SA prices to supracompetitive levels in general. Second, I determine if such price increases have been (in whole, or in part) passed through to Reseller Class Members. Third, I determine whether common evidence and analyses can be used to determine whether any such general, anticompetitive price increase had a widespread effect on Reseller Class Members, causing all or virtually all of them to pay higher prices than they would have paid but for the alleged conspiracy. I reach affirmative conclusions on all three issues.

144. In the rest of this Section, I describe (1) the overcharge analysis, (2) the pass-through analysis, and (3) my analysis regarding whether all or virtually all proposed Class Members were injured by the alleged conspiracy.

A. *Overcharge Analysis*

i. *Dummy variable regression methodology*

145. The determination of a price effect, if any, and the estimation of damages attributable to collusive behavior, if any, typically involves the comparison of prices during the period affected by the alleged unlawful conduct (referred to as the "damages period") to competitive prices during a "benchmark period," i.e., prices in a market or during a time period likely unaffected by the alleged unlawful conduct. The benchmark prices provide information that can be used to estimate counterfactual, "but-for" prices that would have prevailed during the damages period in the absence of the alleged unlawful conduct.

146. As part of this analysis, it is common and proper to employ econometric methods to account for factors that affect prices but that are unrelated to collusion (e.g., cost and demand factors) to isolate the price effects, if any, of the alleged conspiracy. I apply the well-known and widely accepted dummy variable multiple regression methodology to estimate the price effects of the alleged conspiracy.[186] The dummy variable multiple regression methodology implements the comparison described above, in that it relies on comparing "prices in the impact period to available prices before and/or after the alleged period of impact,"[187] while controlling for other factors that affect prices. The empirical quantification of impact, if any, attributable to the alleged conspiracy involves a comparison of (1) actual prices during the damages period with (2) estimated, but-for prices in the absence of the alleged conspiracy in that period.

[186] *See*, e.g., ABA Section of Antitrust Law (2017), *Proving Antitrust Damages: Legal and Economic Issues*, 3rd ed. Ch. 6, Section F; McCrary, J. and Rubinfeld, D. (2014), "Measuring Benchmark Damages in Antitrust Litigation," *Journal of Econometric Methods*, vol. 3, pp. 63-74; and ABA Section of Antitrust Law (2014), *Econometrics: Legal, Practical, and Technical Issues*, 2nd ed., Ch. 12.

[187] McCrary, J. and Rubinfeld, D. (2014), "Measuring Benchmark Damages in Antitrust Litigation," *Journal of Econometric Methods*, vol. 3, pp. 63-74, at 63.

147. When a dummy variable multiple regression model is used to estimate the price effect of alleged anticompetitive conduct, the dependent variable is generally the natural log of the price of the product in the affected market, and the set of explanatory variables includes an indicator (or "dummy") variable that indicates whether a given price observation falls inside the damages period (value of one) or inside the benchmark period (value of zero), based on the date of that observation. The regression coefficient of this indicator variable provides a quantitative measure of the effect of the alleged anticompetitive conduct on prices. By removing this effect from prices during the damages period, one can predict but-for prices that would have prevailed in the absence of the alleged conspiracy.

148. In other words, I predict the prices that Defendants would have charged in the absence of the conspiracy or the "but-for prices" by tracking prices, controlling for non-conspiracy-related factors that affect price, and isolating and removing price effects caused by the conspiracy.

149. In employing this methodology, I do not assume that HDD SA prices were raised during the damages period by Defendants' alleged conspiracy. Rather, I utilize well-accepted statistical methods to test whether and, if so, by what amount HDD SA prices were higher than they would have been but for Defendants' alleged conspiracy.

150. In the rest of this Section, I describe (1) the datasets used for my econometric analysis; (2) the regression model specification; and (3) the estimated effects of the alleged conspiracy on HDD SA prices.

ii. *Datasets*

151. I rely on datasets produced by Defendants and third parties to calculate (1) the prices paid, and quantities purchased, by direct purchasers for HDD SA products and (2) control